SPECIAL REPORT-NOMEX

AIR AMERICA LOG

VOL. VI NO. 4 KADENA, OKINAWA 1972

"AIR AMERICA'S MOTTO: 'ANYTHING, ANYTIME, ANYWHERE—PROFESSIONALLY'"

AIR AMERICA LOG ★ エア・アメリカ・ロッグブック

OAT (Outside Air Temperature) gage in cockpit of N9664C registering 40° C. or 104° F. (See red orrow inside yellow circle.)

FRIED EGGS "A LA VOLPAR"

On May 6, 1972, the USAF weather station recorded temperatures in the Udorn area of up to 101° F. Flight and ground personnel working on the ramp complained that the heat was unbearable and that aircraft cockpits and skin temperatures slowed workers to a noticeable extent.

To test the heat, two methods were used. Fixed Wing SIP, (Senior Instructor Pilot). Captain I. B. King, Fixed Wing Crew Chief, J. F. Bonafonte Cimiano, and Club Rendezvous Chef, Supa-Uan Chanta, used the wing of Volpar N9664C to fry eggs. The wing skin temperature was also measured at 58° C., or about 140° F. by use of a liquid temperature sensing instrument pressed against the skin. The OAT (Outside Air Temperature) gage in the cockpit of 64C registered 40° C. or 104° F.

(Pix by: Mike Kandt, OM/UTH)

UTH's Club RENDEZVOUS Chef Supa-Uan Chanta (right) prepares fried eggs "A la Volpar" on wing of UTH-based Volpar N9664C. With him, [illegible] heat are Fixed Wing Crew Chief J. B. Bonafonte Cimiano and Fixed Wing Captain I. B. [illegible]

"YOU CANNOT FLY WITHOUT SUPPLY"

AIR AMERICA LOG ★ TẠP CHÍ HÀNG KHÔNG MỸ QUỐC

PROFESSIONALLY SPEAKING...

by: M. V. Dimalanta, Special Ass't/ DTS/UTH

Mr. J.A.C. Santillan, Jr., Foreman of Construction, Ground Maintenance Department, Udorn, is a holder of three degrees: Bachelor of Science in Architecture, Civil Engineering, and Business Administration & Management.

Santi (as he is popularly known) joined Air America in Udorn in July 1967. Shortly after being employed, he was assigned as Chief Construction Inspector, Udorn, for various Company construction projects at our UTH Base. In the course of his duties, he effectively coordinated construction particulars between the Company and construction Contractors and was known as a tough but fair-minded Inspector who insited that Contractors live up to their contracts.

Besides supervising construction inspectors, design engineers, and draftsmen, he spent enough time in his office to personally sketch or design numerous in-house projects demanding architectural engineering skills. It was on these occasions he proved his ability as a design engineer and his personal maxim that: "The test of an individual's professionalism is how far it effectively utilizes modern techniques. Modern tools in the hands of an ancient mind do not produce professional work."

Santi is one of the select few architectural engineers who possess an International License Certificate to practice architecture. Besides English, he speaks Thai, Spanish, Muslim and Tagalog. He is married and expects soon to be a father.

Mr. J.A.C. Santillan, Jr. (seated left) is shown discussing details of a landscaping project with Miss Ruedeenipha Ladowan, Draftsman/UTH (center) and Mr. Priscillano F. Fadero, Mechanic I/UTH

Mr. Santillan (left) with Inspector Suparb Photichak, inspecting one of the hangars under construction at Udorn.

Mr. Santillan (left) and Inspector Photichak observe the work of contractor personnel.

Mr. Santillan, with Inspector Photichak, discussing a plan of Udorn's new hangars with the contractor.

PORTER DROP DOOR HANDLE RELOCATED

The cargo drop door handle of Air America's Porter PC-6/C STOL (Short Take-off and Landing) aircraft has been relocated from its former location, between the pilot's seat and fuselage, to the center of the aircraft below the sandwich tray. This allows a pilot to operate the handle with his right instead of his left hand, greatly facilitating the air drop operation since the pilot can keep his left hand on the aircraft's control stick throughout the entire flight instead of having to switch hands for the drop operation as he did when the door handle was in its left side location.

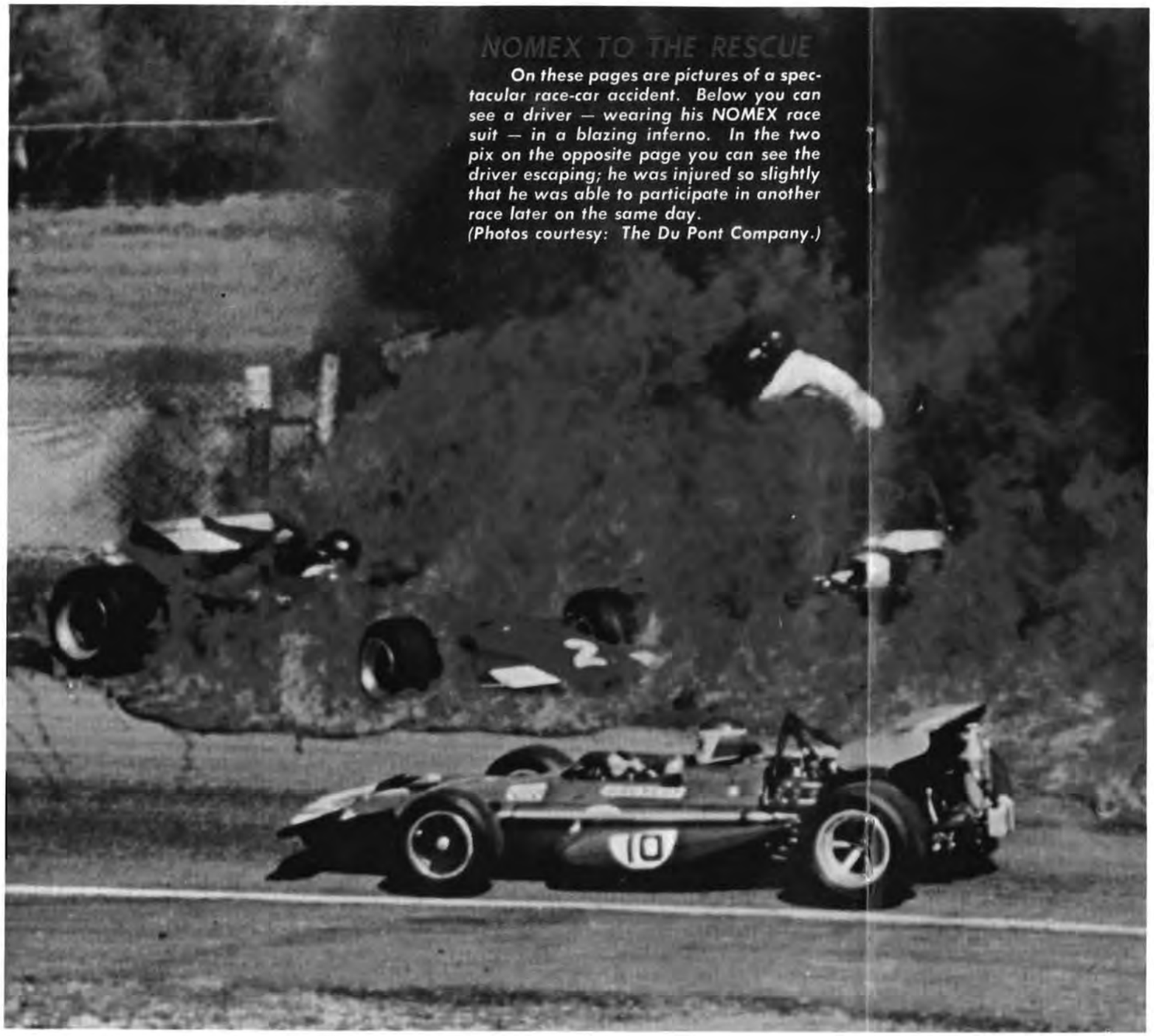
The Porter's cargo drop door handle in its new position (see green circle).

The Porter's cargo drop door in the open position (see red circle).

The PC-6/C Porter is used throughout Laos to land or to air-drop supplies to the natives. It carries such things as bags of rice and other commodities; medicines and slaughtered animal carcasses. The plane is also used to move people and their children and belongings, bring the sick and wounded to hospitals, etc. In short, it carries just about anything that doesn't over-cube or over-gross the aircraft.

NOMEX TO THE RESCUE

On these pages are pictures of a spectacular race-car accident. Below you can see a driver — wearing his NOMEX race suit — in a blazing inferno. In the two pix on the opposite page you can see the driver escaping; he was injured so slightly that he was able to participate in another race later on the same day.
(Photos courtesy: The Du Pont Company.)



NOMEX UNIFORMS ARE HEAT-RESISTANT

Courtesy: Safety Division

All AAM helicopter crews stationed at our Udorn, Thailand and Saigon, South Vietnam Bases are being furnished with flight uniforms made of NOMEX, a high temperature-resistant nylon fiber, produced by The Du Pont Company; the Company makes only NOMEX fiber, not fabrics or garments.

According to the manufacturer, NOMEX is "...difficult to ignite even with a direct flame. At temperatures as high as 800° F., NOMEX doesn't melt or drip, but simply chars..." Du Pont literature further states that: "spun fibers of NOMEX can be fashioned easily into lightweight fabrics that are comfortable to wear and use...; NOMEX fabrics ars also rugged and give long wear life .." However, a Safety Bulletin issued by the Department of the Air Force, while confirming the excellent heat-resistant qualities of NOMEX, does not confirm the Du Pont claim that "NOMEX fabrics are comforable to wear and use..." We are quoting the USAF bulletin verbatim below:

IT'S YOUR SKIN

"During a recent aircraft accident which occurred on landing, the pilot was temporarily stunned when he hit his head on the gunsight. He was incapacitated to the point that he was not able to get out of the burning bird as quickly as he should have. He sustained first, second and third degree burns over his upper body. His NOMEX flight suit and gloves were not burned and undoubtedly saved his life. He was in the flames over two and one-half minutes.

"NOMEX flight suits are hot, sticky, and uncomfortable, especially when the weather is hot, sticky, and uncomfortable. And gloves tend to interfere with your delicate touch on the controls. Well, grin and bear it. Until we can schedule our accidents and fires, you'll be wise to suit up for every flight as if it's your turn in the barrel. Gripe all you want, but suit up! It's your skin."

Here are a few tips about laundering NOMEX garments:

In use, NOMEX garments may be exposed to soils and staining agents that can adversely affect not only their appearance but also, and more important, their flame-resistant characteristics.

Although laundering NOMEX garments is usually sufficient, garments heavily soiled with grease or oil may require dry cleaning. In either case, NOMEX garments should be segregated and processed separately from other articles to avoid contaminating the NOMEX garments with lint fibers that may be flammable.

Although there have been no documented instances of explosions caused by static discharge from NOMEX garments, according to Du Pont, it is strongly recommended that an antistat be included when laundering NOMEX work garments worn in areas where explosion hazards many exist. A commercially-available antistat recommended by Du Pont is called "Emersoft" 7700; vendor is: Trylon Chemical Division, Emery Industries, Inc., P. O. Box 628, Mauldin, S.C. 29662.

AIR AMERICA LOG ★ แอร์อเมริกา

NOMEX ADOPTED FOR FLIGHT UNIFORMS

UDORN

Air America's Base at Udorn, Thailand reports that, after many delays, the first shipment of NOMEX arrived at Udorn in early April of this year. A sample uniform was immediately tailored and modelled (see photos) to determine whether or not any last-minute changes were desirable. Some minor design changes were made and production is now in full swing by several local tailors.

Captain D. B. Kendall, UH-34 pilot UTH, models new NOMEX flight uniform, jacket on.

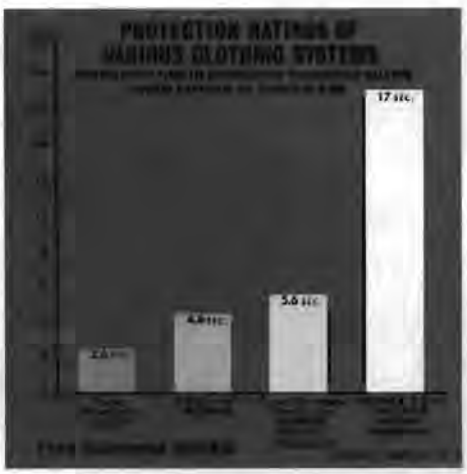
Captain Kendall, models new NOMEX flight uniform, jacket off. (Pix by: W. Palmer, SOM/UTH)

MAXIMUM PROTECTION

To give Air America's helicopter flight crews maximum possible protection against fires, consistent with crew member comfort and mobility, all crew member trousers are being made of a double layer of 4 oz. NOMEX material; this not only offers the extra protection of two layers of fire-resistant NOMEX, but the air space in between the two layers adds still extra protection. If the aircrew members are wearing both their NOMEX shirts and jackets, (both are long sleeve) they will have effective double-layer NOMEX protection over virtually their entire bodies. Here are some opinions on the effectiveness of double-layer NOMEX:

"There has been some recent testing which shows that almost all single-layer NOMEX suits at the present time offer very little protection. The test criteria which has been used is a 25° C. ambient rise in skin temperature. This is the approximate temperature—plus or minus a few degrees—at which most people start to develop tissue injury, blisters and second degree burns. The preliminary testing shows that a single-layer NOMEX suit gives approximately four seconds protection from a gasoline fire which is equivalent to ethyl gasoline. Aviation gasoline, naturally, has some different burning characteristics, but I am sure it is quite similar to automobile gasoline.

"It has been shown that multi-layer systems are quite superior to single-layer systems. The addition of any type of underwear, whether it be 100% cotton or a fire resistant material, such as NOMEX, adds greatly to survival time. It will add approximately 10 extra



seconds so that one goes from 4 seconds to 14 seconds for protection..." Source: Donald E. Ginardi, M.D., Chairman, Medical Safety Committee, SPORTS CAR CLUB OF AMERICA.

The following is quoted from the March, 1966 issue of CAR & DRIVER: "With a double layer of NOMEX, it takes 7½ seconds to feel pain and 20 seconds to blister." Another quote says"...a single layer of NOMEX is no good. The only significant protection is provided by two layers of (NOMEX) material."

U.S. Navy tests reported these results: "Two layers of 3 oz. NOMEX remained physically intact after flame contact for over four minutes, whereas a single layer of 6 oz. fabric burned through in 7.5 seconds." In other words, two thin layers of NOMEX offer better than 32 times as much flame protection as a single layer of material twice as thick.

AIR AMERICA GETS NOMEX

To meet the requirements for an initial issue of two jackets, seven shirts and six pairs of trousers to helicopter aircrew members at the Company's Udorn and Saigon Bases, it was necessary to procure and ship 12,000 yards of NOMEX material along with all the necessary accessories such as buttons, NOMEX thread, heavy-duty zippers and Velcro fasteners. (Velcro is a nylon-nap, press-to-fasten, all-purpose fastener.)

Of the 12,000 yards of NOMEX material procured, some 10,000 yards went to Udorn, and approximately 1,700 yards to Saigon.

Color—trousers and jacket: dark or smoky gray; shirt: light gray.

NOMEX ADOPTED FOR FLIGHT UNIFORMS

SAIGON

As soon as the NOMEX material arrived at Air America's Base at Saigon, South Vietnam, a sample flight uniform was made at a local tailor shop and displayed in the Supply Office.

Saigon learned that problems could develop with the uniforms unless they are properly tailored; the trick is not to make the uniforms too tight as NOMEX material has very little elasticity.

NOMEX flight uniforms are now being tailored for Air America Saigon-based helicopter flight crews.

OLD & NEW — Captain A. P. Goodkin, C-47/SIP/SGN (l.) wearing standard flight uniform; the material is composed of 65% HUALON polyester and 35% cotton. Captain Claude James, 204B/IP/SGN (r.) wearing new NOMEX flight uniform.

Captain James in new NOMEX uniform and full flight regalia stands beside a Saigon-based Bell 204B helicopter. (Pix by: G. Keller, ADSAFE/SGN.)

"A PLANE IS NO BETTER THAN ITS MAINTENANCE"

NOMEX ADDENDA

NOMEX PROPERTIES

Here are some of the properties of NOMEX, according to various bulletins put out by the Du Pont Company, manufacturers of NOMEX fiber:

"FIRE RESISTANCE — NOMEX will not spread flames. It will char, but it will not melt or drip ... The superior heat-resisting performance of NOMEX is related to the fabric's charring and the production of a carbon crust which seals the fabric and prevents further transmission of heat ... Large drops of molten steel char but will not ignite the fabric. This fire-resistance is built into the fiber and cannot wash off or wear out...

"Properly finished fabrics of NOMEX are inherently flame-resistant and provide a high degree of protection against radiant heat and fire ... Any flame produced during oxidation is self-extinguishing when the fiber is withdrawn from the source of heat ...

"DURABILITY — NOMEX nylon fiber is extremely strong and tough — it is the most durable fiber now being used in work clothing. In tests, garments of NOMEX lasted an average of five times longer than cotton garments ...

"CHEMICAL RESISTANCE — NOMEX fiber resists damage from both acid and caustic chemicals. Battery acid, for example, will dissolve cotton but not NOMEX..."

MILITARY REPORTS

ARMY REPORT — From Army Aviation Digest: "Report of a combat helicopter crash and fire in which one of the pilots was pinned down for 'possibly up to three minutes' in the intense heat and flames of the burning wreckage. The fire was so hot that the nylon of the pilot's shoulder harness completely melted and dripped down on his flight suit. His nylon chinstrap had started to melt when he finally managed to free himself. His only burns were first degree and superficial second degree burns on his upper back and lower neck. His NOMEX flight suit never caught fire although the heat from the flames, transmitted through the fabric, burned his skin."

NAVY REPORT — "An F-4F RIO (Radar Intercept Officer) says: "I felt a violent explosion followed rapidly by a second explosion. I looked forward and right while reaching for the face curtain and saw a bright orange fireball and fire which appeared to be inside and out of the cockpit. It became very hot in the cockpit and the airplane felt as thought it were being tossed about like a toy. It appeared to be going high nose up and rolling to the left. I heard nothing over my headset from the time of the first explosion until time of ejection. The time span was 1 to 2 seconds or as long as it takes to reach the face curtain and pull."

Investigating flight surgeon: "The fact that the RIO was able to escape with no burns despite being engulfed in flames is another testimony to the NOMEX flight suit's fire-retardant capability."

AAM's NOMEX FLIGHT UNIFORMS

Here are some specificiations and comments relating to AAM's new NOMEX flight uniforms:

All NOMEX fabric used for Air America flight uniforms is made by the Bibb Manufacturing Company, Macon, Georgia, 31208, to the following specification: "NOMEX nylon fabric, style 0037-1, 45 in. wide, 115 x 79, 3.16 Y/P/P, 4.0 oz./sq./yd., 2 x 1 left-hand twill. Bibb was selected as AAM's fabric supplier because of its considerable experience in the field and because it gave *(Continued pg. 8, Col. 1)*

Captain E. Wayne Knight, Chief Pilot/Rotary Wing/UTH had this comment to make about his new NOMEX flight uniform: "The NOMEX uniform is warmer and less comfortable, when the weather is hot, sticky and uncomfortable, than the previously-worn Southeast Asia uniform. However, when a flow of air is present, this problem is minimized and is considered a part of the price to be paid for the protection provided."
Captain Knight in his office at Udorn (above). (Pix by: Mike Kandt, OM/UTH)

VIP VISIT

Last December, a group of Air America's top management toured the Company's installations in Southeast Asia. Among their stops was AAM's Base at Udorn, Thailand, where the photographs appearing below were taken. A group of pix of this visit to Udorn also appeared in Air America LOG, Vol. VI, No. 2, Pg. 3.

PHOTO CAPTIONS:

1. *(l. to r.): Miss Ann Stilwell, Secretary to MGDR; Captain R. W. Elder, Assistant Chief Pilot/Rotary Wing-UTH; Captain C. J. Abadie, Jr., Vice President/UTH; J. W. Walker, Jr., Vice President, Flight Operations; Captain J. D. Ford, Chief Pilot/Rotary Wing-UTH; Hugh L. Grundy, President (partially hidden); Mrs. Velte; Paul C. Velte, Jr., Managing Director.*
2. *(l. to r.): Mr. Velte shaking hands with Mr. Namosanthi, Assistant Traffic Manager/UTH; Miss Stilwell.*
3. *(l. to r.): Mr. Grundy, Mr. Velte, Miss Stilwell, Mr. Namosanthi, Captain Ford, Captain Abadie.*
4. *(l. to r.): Captain Abadie; Mr. Grundy; Miss Stilwell; Mr. Namosanthi; John W. Melton, Traffic Manager/UTH.*

AIR AMERICA LOG ★ 미 국 항 공 회 사 잡 지

(Continued from pg. 7, Col. 2)
the company the best quote.

Our flight crew uniform specifications are:

CAP: 4 oz. single-ply, dark grey NOMEX cap cover which fits over cap frame; 3 each issued to a flight crew member.

JACKET: 4 oz. single-ply, dark grey NOMEX; 2 each issued.

SHIRT: 4 oz. single-ply, light grey NOMEX, long sleeve; 7 each issued.

TROUSERS: 4 oz. double-ply, dark grey NOMEX outer ply, light grey NOMEX inner ply; 6 each issued.
Note: A Velcor fastener at the bottom of each trouser leg allows the pants to be pinched tightly around each ankle.

GLOVES: Are currently in testing phase therefore none are yet being issued to flight crew members. Several pairs are currently undergoing a 90-day test evaluation in the field. Specifications of the gloves being tested are: flying gloves with back made of 4 oz. double-ply, dark grey NOMEX. Palm and fourchette area of the gloves (fourchette is a narrow, forked — fourchette is fork in French — strip of material joining the front and back sections of a glove) are of black leather. The gloves have a long cuff, and are pinched at the wrist by elastic.

Included in the flight crews' uniform are a helmet with a plastic visor. The visor serves a two-fold purpose: it has an anti-glare property to protect the pilot's eyes against the sometimes intense sun in Southeast Asia, and it is an anti-blast device to offer the pilot protection should a helicopter's windshield suddenly shatter for any reason. The visor also offers an as yet unknown degree of heat and flame protection.

TWO-ON-FINAL

One clear night in late 1954, several C-124 Globemasters — the huge MATS transports with a double decker fuselage and a cockpit as spacious as some living rooms — were returning to Westover Air Force Base, Massachusetts, for landing after an overseas run. A calm, mature voice, indicating that the speaker was an old hand in the flying business, called the control tower: "Westover Tower, this is 244, 5 miles northeast at 4000 feet, requesting landing instructions." The control tower operator answered: "244 landing direction is northeast on runway 05, clear to enter traffic, call on base leg for further landing clearance." Evidently, radio calls from other aircraft blocked out 244's call on base leg, so the tower operator called: "244, what is your present position — I do not have you in sight." Again the mature voice calmly replied: "Tower, this is 244, I'm at 1500 feet just starting to turn on the final approach." At this point, a young, high-pitched voice, indicating that the speaker was having horrible visions of a midair collision, excitedly called on the radio: "244, I'm also at 1500 feet in about the same position!"

The "old hand" voice snapped back: "Well, you should be, you (unprintable), you're my copilot!"

Courtesy: Interceptor

DOUGLAS C-124 GLOBEMASTER

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AN EQUAL OPPORTUNITY EMPLOYER M/F.

EDITOR'S EDEN

(or: shortie squibs from here & there)

BE NEAT!

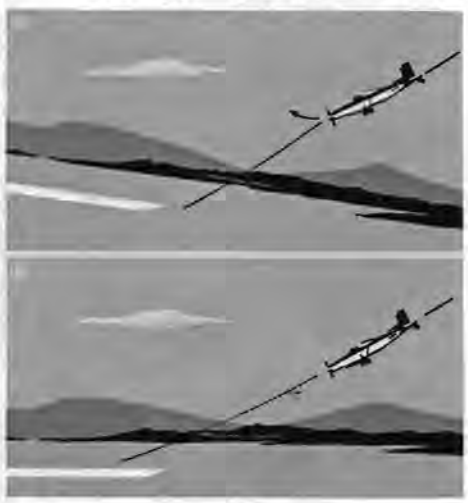
Some of our personnel just do not cut the mustard when it comes to looking like a neat, professional man while on the job — be he pilot, mechanic or what-have-you. Let us requote from AAM LOG, Vol. IV, No. 1, P. 8, **"NO SLAVISH LOVE:** The coat-and-tie tradition is not based on a slavish love for an outmoded past, but is rooted in the belief that to dress neatly and acceptably for any occasion is a sign of individual maturity, self-discipline, and good taste."

— Thomas Jefferson

STEEPER & FASTER APPROACH

A sloping runway requires a steeper, faster approach. If you maintain the same glide angle with respect to the runway for an upgrade (A) as you do for a level strip (B) you may bump your nose on the threshold. The grades of mountain airstrips are impossible to estimate from the air.

Courtesy: FAA Aviation News



AIR HISTORY (Item 25)

December 31, 1908. A flight of 2 hours. 20 minutes, 23 seconds was made by Wilbur Wright at Le Mans, France.

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